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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/445,991	12/17/1999	MICHAEL B ALLENSON	124-749	1633

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EXAMINER

JACKSON, CORNELIUS H

ART UNIT PAPER NUMBER

2828

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/445,991

Applicant(s)

ALLENSON ET AL.

Examiner

Cornelius H. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.



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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Acknowledgment

1. Acknowledgment is made that applicant's Amendment, filed on 11 July 2003, has been entered. Upon entrance of the Amendment, claims 1 and 3-17 were amended, claim 2 was cancelled and claim 18 was added. Claims 1, 3-18 are now pending in the current application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 and 3-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 1 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim how "at least two light emitting means *convert* the input current of the electrons into a *single* beam of output radiation". As Applicant stated in paper number 11, pages 8-9, "the claim states that the light emitting means do not share a common optical waveguide, and therefore the outputted beams could not be in a single beam". As such, "at least two light emitting means *convert* the input current of the electrons into a beam of output radiation", should

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state, "at least two light emitting means *convert* the input current of the electrons into a *plurality of beams of output radiation*". Claims 3-17 are rejected for depending on an indefinite base claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al. (WO 96/08857) and Kushibe et al. (4928285). Edwards et al. teach a light emitting device **Fig. 1** comprising at least two light emitting means **TDA** each for converting the input current of electrons into a beam of output radiation, each of the light emitting means **TDA** having an impedance (**characteristic property**) and an individual quantum efficiency (**characteristic property**), wherein the light emitting means **TDA** are electrically connected in series, **see page 3, lines 23-25 and page 4, line 9**, such that the input impedance of the light emitting device is substantially equal to the sum of the impedances of the light emitting means, **see page 5, lines 7-10**, and such that the quantum efficiency of the device is substantially equal to the sum of the quantum efficiencies of the light emitting means, **see page 4, line 17-page 6, line 6**. Edwards et al. fails to teach the light emitting means have a respective optical waveguide and are

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arranged optically such that the light emitting means do not share a common optical waveguide. Kushibe et al. teach the light emitting means **Fig. 1**, having a respective optical waveguide **18**, are arranged optically such that the light emitting means do not share a common optical waveguide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the laser of Kushibe et al. in the laser emitting device of Edwards, since Edwards teach the use of a laser that is a single mode laser diode/LED, **see page 13, line 25-page 14, line 2**, and Kushibe et al. teach a single mode laser diode/LED, **see col. 4, lines 3-11**. Also, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claims 3 and 4, Edwards et al. and Kushibe et al. teach all the stated limitation, since it has been held "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Also see Edwards, page 13, lines 9-16.

Regarding claims 5-7, Kushibe et al. teach all the stated limitations, **see col. 3, lines 40-50 and col. 9, lines 30-42**.

Regarding claim 8, It would have been an obvious matter of design choice to place a reflective coating on an end face of a light emitting means, since applicant has not disclosed that the reflective coating solves any stated problem or is for any

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particular purpose and it appears that the invention would perform equally well with the reflectivity of the reflective end faces of the light emitting means.

Regarding claims 9-11, Edwards et al. teach all the state limitations, **see Fig. 1**.

Regarding claims 14-15, the method of how the device operates is not germane to the issue of patentability of the device itself. Therefore, the rejection used against the device, stands for the method as well.

6. Regarding claims 16-17, Edwards et al. teach all the state limitations, **see Fig. 8 and page 12, lines 18-23**.

Regarding claim 18, Edwards et al. teach the light emitting means are electrically connected in any one of a parallel connection or in a series parallel connection, **see page 6, lines 7-21**.

7. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al. (WO 96/08857) and Kushibe et al. (4928285) as applied to claims 1-11 and 14-17 above, and further in view of Rossi et al. (5799029) and/or Hsu (5317440). Edwards et al. and Kushibe et al. teach all the stated limitations except for the use of optical fiber for transmitting the beams of output radiation. Rossi et al. **Figs. 3-4** and Hsu **Figs. 1-2** teach the use of optical fiber for transmitting the beams of output radiation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the optical fiber of Rossi et al. and/or Hsu, since the use of optical fiber is well known in the art and it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Response to Arguments

8. Applicant's arguments filed 11 July 2003 have been fully considered but they are not persuasive.

Applicant arguments are as follows:

a. The Examiner's statement that, "It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the laser of Kushibe et al. in the laser emitting device of Edwards, since Edwards teach the use of a laser that is a single mode laser diode/LED, **see page 13, line 25-page 14, line 2**, and Kushibe et al. teach a single mode laser diode/LED, **see col. 4, lines 3-11**" is without support.

b. The Kushibe reference does not teach more than one laser.

c. The Kushibe reference is not relevant to the claimed invention since it is concerned with achieving a single mode output where loss of radiation is inherently established.

d. One of ordinary skill in the art looking to modify the device in Edwards would clearly avoid the teachings of Kushibe with its suggestion of operation at a significantly lower efficiency.

Examiner replies to Applicant's arguments are as follows:

a. It would have been obvious to one of ordinary skill in the art at the time the invention was made to since Edwards teach the use of a laser that is a single mode laser diode/LED, **see page 13, line 25-page 14, line 2**, and Kushibe et al. teach a

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single mode laser diode/LED, **see col. 4, lines 3-11**. As it would have been obvious to one of ordinary skill in the art to use a plurality of Kushibe et al. lasers within the laser system of Edwards, since Edwards teaches a plurality of single mode lasers. In short, Edwards teaches a laser system employing a plurality of single mode lasers, where Kushibe teaches a single mode laser having the advantage of inhibiting the degradation of emission efficiency (intensity of light emission), **see col. 2, lines 13-68**.

b. Examiner agrees that Kushibe reference does not teach more than one laser, but in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

c. See replies above.

d. Neither prior art references state what is concerned to be a high or low efficiency. Kushibe may teach a lower efficiency than some other single mode laser, but Kushibe also teach the highest possible efficiency for a single mode laser having good basic device characteristics and inhibiting the degradation of emission efficiency (intensity of light emission).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cornelius H. Jackson whose telephone number is (703) 306-5981. The examiner can normally be reached on 8:00 - 5:00, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7722 for regular communications and (703)308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

chj

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September 15, 2003

Paul Ip
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